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BREVAL, ELMITO

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



### **DETAILED ACTION**

The amendment filed on 07/27/2010 has been entered.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-5 and 6-9 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (JP: 2003-308783) of record in view of Nunomura (US. Pat: 6,479,932 B1) of record.

**Regarding claim 1**, Uchida ('783) teaches (in at least figs. 1, 2, and 6; also see the applicant provided English translation of the foreign reference) a plasma display panel driven by plurality of subfields forming one field, the subfields comprising: a

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writhing period during which writhing discharging occurs in discharge cells to be displayed; and a sustain period during which sustain discharging occurs in the discharge cells in which the writing discharging occurs during the writing period, the plasma display panel comprising: a first substrate (5; i.e. the front substrate), a plurality of pairs of scanning electrodes (2a) and sustaining electrodes (2b) arrayed oppositely and parallel in one direction, and a back substrate (6; i.e. the second substrate) with a plurality of back electrodes (1A; i.e. the data electrodes) arrayed in the other direction perpendicular to the scanning electrodes, with barrier ribs (7) in between to form discharge spaces; wherein the plurality of back electrode (1a; i.e. the data electrodes) entering the discharge spaces at an entry side on a data driver extend with an electrode width constantly wide from the entry side (i.e. the peripheral portion) and constantly narrow from the middle to the end side, but silent about at least one data electrode of the data electrodes including a middle portion having a first constant width, opposite end portions having a second constant width, and respective tapered portions extending from the middle portion to each of the end portions.

Nunomura ('932) in the same field of endeavor teaches (in at least figs. 16-17 and 20-21) a plasma display panel comprised of, in part, at least one data electrode (16) of the data electrodes including a middle portion having a first constant width (34), opposite end portions having a second constant width (33), and respective tapered portions extending from the middle portion to each of the end portions for the purpose of improving the stability of the address discharge to the discharge cells.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the data electrodes structure of Nunomura in the device of Uchida for the purpose of improving the stability of the address discharge to the discharge cells.

**Regarding claim 2**, Uchida ('783) teaches (in at least fig. 1) the plurality of back electrodes (1a; i.e. the data electrodes) entering the discharge spaces at an entry side on a data driver extend with an electrode width constantly wide from the entry side (i.e. the peripheral portion) and constantly narrow from the middle to the end side.

**Regarding claim 3**, Uchida ('783) teaches (in at least figs. 1 and 2) the back electrodes (1A; i.e. the data electrodes) having the end portion wider than the central portion increases in width continuously from the central portion of the second (6) toward the peripheral portion of the second substrate.

**Regarding claim 6**, Nunomura ('932) teaches (in at least figs. 16-17 and 20-21) at least one data electrode (16) is substantially symmetrical from a central portion of the electrode to each end portion of the electrode. The reason for combining is the same as for claim 1.

**Regarding claim 8**, Uchida ('783) teaches (in at least figs. 1, 2, and 6; abstract; also see the applicant provided English translation of the foreign reference) a plasma display panel driven by plurality of subfields forming one field, the subfields comprising: a writhing period during which writhing discharging occurs in discharge cells to be displayed; and a sustain period during which sustain discharging occurs in the discharge cells in which the writing discharging occurs during the writing period, the

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plasma display panel comprising: a first substrate (5; i.e. the front substrate), a plurality of pairs of scanning electrodes (2a) and sustaining electrodes (2b) arrayed oppositely and parallel in one direction, and a back substrate (6; i.e. the second substrate) with a plurality of back electrodes (1A; i.e. the data electrodes) arrayed in the other direction perpendicular to the scanning electrodes, with barrier ribs (7) in between to form discharge spaces; wherein the plurality of back electrode (1a; i.e. the data electrodes) entering the discharge spaces at an entry side on a data driver extend with an electrode width constantly wide from the entry side (i.e. the peripheral portion) and constantly narrow from the middle to the end side, but silent about each of the data electrodes are wider in a top and bottom peripheral portion than in a central portion of a display screen and at least one data electrode of the plural data electrodes includes a middle portion having a first constant width, opposite end portions having a second constant width, and respective tapered portions extending from the middle portion to each of the end portions.

Nunomura ('932) in the same field of endeavor teaches (in at least figs. 16-17 and 20-21) a plasma display panel comprised of, in part, data electrode (16) wherein each data electrode of the data electrodes are wider in a top and bottom peripheral portion (33) than in a central portion (34) of a display screen and at least one data electrode (16) of the data electrodes including a middle portion having a first constant width (34), opposite end (33) portions having a second constant width, and respective tapered portions extending from the middle portion to each of the end portions for the purpose of improving the stability of the address discharge to the discharge cells.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the data electrodes structure of Nunomura in the device of Uchida for the purpose of improving the stability of the address discharge to the discharge cells.

Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwon et al., (US. Pub: 2005/0052137) of record.

**Regarding claim 4**, Kwon ('137) teaches (in at least figs. 1, 3 and 7) a plasma display panel comprising: a first substrate (100); plural pairs of display electrodes (102, 103), each pair consisting of a scanning electrode and a sustaining electrode which are arranged parallel to each other on the first substrate (100; best seen in fig. 7); a second substrate (110) disposed opposite to the first substrate such that a discharge space is formed between the first substrate and the second substrate; plural data electrodes (21 of figs. 1 and 3; and 112 of fig. 7; i.e. the address electrodes) disposed on the second substrate in a direction perpendicular to the display electrodes (best seen in fig. 7), wherein data electrodes disposed at opposite peripheral portions of the second substrate are wider than a data electrode disposed in a central portion of the substrate (best seen in figs. 1 and 3; [0018]; [0037]-[0038] i.e. expanded portions that formed at the beginning region and the end region of the address electrode), but silent about from the central portion of the second substrate toward each side portion of the second substrate, each of the plural data electrodes is wider than a previous adjacent data electrode.

At the time of the invention, one of ordinary skill in the art would contemplate of forming each of the plural data electrodes of Kwon wider than the previous adjacent data electrode from the central portion of the substrate toward each side portion of the second substrate for the purpose of improving the stability of the address discharge to the discharge cells, and also to maintain a uniform driving voltage on the overall surface of the panel ([0021]). The Examiner notes that the data electrodes structure of Kwon is solving the same problem as the applicant. Furthermore, it has been held that rearranging parts of an invention involves only routine skill in the art.

**Regarding claim 7**, Kwon ('137) teaches (in at least figs. 1-3) the data electrodes (21; i.e. the address electrodes) disposed at opposite peripheral portions of the second substrate are arranged symmetrically by width with respect to the data electrode disposed in the central portion of the second substrate.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any



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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELMITO BREVAL whose telephone number is (571)270-3099. The examiner can normally be reached on M-F (8:30 AM-5:00 Pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Toan Ton can be reached on (571)-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bumsuk Won/  
Primary Examiner, Art Unit 2889

October 19, 2010  
/Elmito Breval/  
Examiner, Art Unit 2889

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